

COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method of forming a composite material

comprising:

combining a reinforcement material which includes carbon-containing fibers with a carbonizable matrix material to form a mixture;

heating the mixture to a sufficient temperature to melt at least a portion of the matrix material, the step of heating including:

applying an electric current to the mixture to generate heat within the mixture; and

while heating the mixture, applying a pressure of at least 35 kg/cm² to the mixture to form a compressed composite material;

increasing the density of the compressed composite by introducing a carbonizable material into voids in the compressed composite and then baking the compressed composite to achieve a density of at least about 1.30 g/cm³;

graphitizing the compressed composite having a density of at least about 1.30 g/cm³ in an inert atmosphere to a final temperature of at least 2000°C; and

impregnating the compressed composite, having a density of at least about 1.30 g/cm³, with a treating component after graphitization.

2. (canceled)

3. (original) The method of claim 1 wherein said treating component comprises at least one of a metal, a thermosettable resin, and combinations thereof.

4. (original) The method of claim 3 wherein said metal comprises at least one of aluminum, copper, boron, and combinations thereof.

5. (original) The method according to claim 3 wherein said thermosettable resin comprises phenolic resins, furan derived resins, epoxy resins, polyimides, cyanate esters, and combinations thereof.

6. (original) The method according to claim 5 further comprising curing said thermosettable resin.

7. (currently amended) The method according to claim 1 wherein said compressed composite, having a density of at least about 1.45 g/cm³, comprises at least one friction additive.

8. (currently amended) The method according to claim 1 wherein said impregnation comprises subjecting said compressed composite, having a density of at least about 1.45 g/cm³, to vacuum.

9. (original) The method according to claim 1 wherein said treating component comprises a thermosettable resin.

10. (currently amended) The method according to claim 1 further comprising ~~heating~~ heat treating said compressed composite, having a density of at least about 1.45 g/cm³, to a temperature greater than the highest use temperature of said composite material.

11-20 (canceled)